

In re Application of: Alexei SHIR et al
Serial No.: 10/535,189
Filed: September 21, 2006
Office Action Mailing Date: December 27, 2007

Examiner: Terra C. Gibbs
Group Art Unit: 1635
Attorney Docket: 29770

In the claims:

1 – 71. (Canceled)

72. (Withdrawn) A composition-of-matter comprising a double stranded RNA molecule associated with a targeting moiety selected capable of targeting to a specific cell and/or tissue type.

73. (Withdrawn) The composition-of-matter of claim 72, further comprising a nucleic acid carrier.

74. (Withdrawn) The composition-of-matter of claim 72, wherein said targeting moiety is non covalently attached to said double-stranded RNA molecule.

75. (Withdrawn) The composition-of-matter of claim 73, wherein said targeting moiety is covalently attached to said nucleic acid carrier.

76. (Withdrawn) The composition-of-matter of claim 73, wherein said double stranded RNA molecule is non covalently attached to said nucleic acid carrier.

77. (Withdrawn) The composition-of-matter of claim 73, wherein said nucleic acid carrier comprises a polymer selected from the group consisting of a polycationic polymer, a non-ionic water-soluble polymer, a polyether polymer and a biocompatible polymer.

78. (Withdrawn) The composition-of-matter of claim 77, wherein said polymer is polyethylenimine and/or poly(ethylene glycol).

79. (Withdrawn) The composition-of-matter of claim 73, further comprising a compound capable of facilitating degradation of an endosomal membrane.

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80. (Withdrawn) The composition-of-matter of claim 79, wherein said compound capable of facilitating degradation of an endosomal membrane is melittin or a melittin derivative.

81. (Withdrawn) The composition-of-matter of claim 72, wherein said targeting moiety is a ligand of a surface marker of said specific cell and/or tissue type.

82. (Withdrawn) The composition-of-matter of claim 81, wherein said ligand of said surface marker is a biological ligand of said surface marker.

83. (Withdrawn) The composition-of-matter of claim 72, wherein said targeting moiety is an antibody or antibody fragment.

84. (Withdrawn) The composition-of-matter of claim 72, wherein said targeting moiety is a growth factor.

85. (Withdrawn) The composition-of-matter of claim 84, wherein said growth factor is epidermal growth factor.

86. (Withdrawn) The composition-of-matter of claim 81, wherein said surface marker is a growth factor receptor and/or a tumor associated antigen.

87. (Withdrawn) The composition-of-matter of claim 86, wherein said surface marker is epidermal growth factor receptor.

88. (Withdrawn) The composition-of-matter of claim 72, wherein said double stranded RNA molecule comprises a polyinosinic acid strand and/or a polycytidylic acid strand.

89. (Withdrawn) The composition-of-matter of claim 72, wherein said

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double stranded RNA molecule is composed of RNA strands each of which composed of a number of ribonucleotides selected from a range of 10-3,000 ribonucleotides.

90. (Withdrawn) The composition-of-matter of claim 72, wherein said specific cell and/or tissue type is associated with a disease and/or is a nervous system cell and/or tissue.

91. (Withdrawn) The composition-of-matter of claim 90, wherein said specific cell and/or tissue type is a tumor cell and/or tissue and/or is a glial cell and/or tissue.

92. (Withdrawn) The composition-of-matter of claim 91, wherein said specific cell and/or tissue type is a malignant glioma cell and/or tissue.

93. (Withdrawn) The composition-of-matter of claim 92, wherein said specific cell and/or tissue type is a glioblastoma cell and/or tissue.

94. (Withdrawn) The composition-of-matter of claim 72, wherein said specific cell and/or tissue type is a human cell and/or tissue.

95. (Withdrawn) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and as an active ingredient a composition-of-matter which comprises a double stranded RNA molecule associated with a targeting moiety selected capable of targeting to a specific cell and/or tissue type.

96. (Currently Amended) A method of killing a specific target cell and/or tissue, the method comprising exposing the specific target cell and/or tissue to a composition-of-matter comprising

(i) a double stranded RNA molecule;

(ii) a nucleic acid carrier; and

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(iii) a targeting moiety,

said double stranded RNA molecule being associated with a-said nucleic acid carrier, said carrier being associated with said targeting moiety and said targeting moiety selected-capable-of-is for targeting to the specific target cell and/or tissue,
thereby killing the specific target cell and/or tissue.

97. (Previously Presented) The method of claim 96, wherein said exposing the specific target cell and/or tissue to said composition-of-matter is effected by administering said composition-of-matter to a vertebrate subject bearing the specific target cell and/or tissue.

98. (Previously Presented) The method of claim 97, wherein said administering said composition-of-matter to said vertebrate subject is effected by administering said composition-of-matter to said subject systemically and/or to a central nervous system location of said vertebrate subject.

99. (New) The method of claim 96, wherein said composition of matter further comprises melittin.

100. (New) The method of claim 96, wherein said targeting moiety is a ligand of a surface marker of said specific cell and/or tissue type.

101. (New) The method of claim 100, wherein said ligand of said surface marker is a biological ligand of said surface marker.

102. (New) The method of claim 96, wherein said targeting moiety is an antibody or antibody fragment.

103. (New) The method of claim 96, wherein said targeting moiety is a growth factor.

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104. (New) The method of claim 103, wherein said growth factor is epidermal growth factor.

105. (New) The method of claim 100, wherein said surface marker is a growth factor receptor and/or a tumor associated antigen.

106. (New) The method of claim 100, wherein said surface marker is epidermal growth factor receptor.

107. (New) The method of claim 96, wherein said double stranded RNA molecule comprises a polyinosinic acid strand and/or a polycytidylic acid strand.

108. (New) The method of claim 96, wherein said nucleic acid carrier comprises a polymer selected from the group consisting of a polycationic polymer, a non-ionic water soluble polymer, a polyether polymer and a biocompatible polymer.

109. (New) The method of claim 108, wherein said polymer is polyethylenimine and/or poly(ethylene glycol).